FUTURE FISHERIES IMPROVEMENT PROGRAM

FWP AND CITIZEN REVIEW PANEL RECOMMENDATIONS TO THE FISH AND WILDLIFE COMMISSION

SUMMER 2019

1) **French Creek channel reconstruction (014-2019).** French Creek (Deer Lodge County) is a tributary to Deep Creek, which flows into the Big Hole River. It is part of the Mount Haggin Wildlife Management Area and within the proposed Artic grayling and westslope cutthroat trout recovery area. Past projects in the watershed funded by Future Fisheries include French Gulch channel restoration (completed; 2015, 2016 grants), French Creek riparian fencing (completed; 2016), and the French Creek fish barrier (in progress). The goal of restoration in the upper French Creek drainage is to restore mining-related damage and establish an interconnected stream system (over 40 miles of stream) for Artic grayling and westslope cutthroat trout. This project would address mining-related damages due to an unnatural dike that has been confining the stream channel and leading to significant erosion and sediment deposition. Reference stream conditions would be used to construct an unconfined stream channel in the floodplain away from the hillslope (4,000 feet of channel). Native sods and willows would be used to construct the banks of the new channel and bioengineering techniques would be used at meander bends. The goal is to enhance fish habitat by reducing a major sediment source that impacts spawning substrate and water quality. In Winter 2019, the application was tabled to further develop the budget. The Winter 2019 request was for $66,495 with a total cost of $420,240. In Summer 2018, the application was tabled to develop the design and obtain match. The Summer 2018 request was for $273,476; total cost $494,476.

<table>
<tr><td>REQUEST</td><td>$79,932</td><td rowspan="4">ITEMS REQUESTED BY APPLICANT</td><td rowspan="4">Water and erosion control, import streambed material, point bar streambanks, revegetation</td></tr>
<tr><td>MATCH</td><td>$490,680</td></tr>
<tr><td>% MATCH</td><td>84%</td></tr>
<tr><td>TOTAL COST</td><td>$586,662</td></tr>
<tr><td colspan="4">FWP STAFF RECOMMENDATION: We support the project but recognize the applicant’s ability to reduce costs to match available funding and the limitations in available funding. We recommend funding this project at $25,735, for 50% of the streambed material and revegetation.</td></tr>
<tr><td colspan="4">REVIEW PANEL RECOMMENDATION: Fund the project at $40,000.</td></tr>
</table>

2) **Beaver Creek Upper Missouri channel reconstruction (012-2019).** Beaver Creek (Lewis & Clark County) is a tributary to the Missouri River below Hauser Reservoir near Helena and primarily supports populations of brown trout and rainbow trout. Historically, Beaver Creek served as a primary spawning tributary for adfluvial trout. Currently, lower Beaver Creek currently lacks floodplain connectivity, habitat complexity, and a functioning riparian area due to past land use practices. A phased restoration approach is proposed, of which this request would be for Phase I of II. Phase I would restore 0.3 miles

of the channel (total size 1.2 miles). Improvements include raising the elevation of Beaver Creek to connect to the floodplain, reconnecting abandoned oxbows, constructing a new channel, converting old channel to wetlands, installing habitat structures, planting riparian vegetation, reconstructing the floodplain surface, and improving camping sites. The goals are to restore hydrologic processes, reconstruct the channel and riparian area to reference conditions, improve water quality, and increase habitat complexity to improve spawning and rearing habitat.

<table>
<tr><td>REQUEST</td><td>$75,000</td><td rowspan="4">ITEMS REQUESTED BY APPLICANT</td><td rowspan="4">Excavation/hauling, streambed construction, wood matrix construction</td></tr>
<tr><td>MATCH</td><td>$271,859.80</td></tr>
<tr><td>% MATCH</td><td>78%</td></tr>
<tr><td>TOTAL COST</td><td>$346,859.80</td></tr>
<tr><td colspan="4">FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend determining the level of funding during Panel discussion and prioritization.</td></tr>
<tr><td colspan="4">REVIEW PANEL RECOMMENDATION: Fully fund the project ($75,000).</td></tr>
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3) **Como Dam water regulation improvement (013-2019).** Lake Como (Ravalli County) is located near Hamilton and is a natural lake that was impounded for irrigation storage in the upper Bitterroot River drainage. Lake Como contains kokanee, sucker, mountain whitefish, rainbow trout, and cutthroat trout. Bitter Root Irrigation District operates Como Dam to regulate flow in the Bitterroot River. A Reclamation Agreement is in place with FWP to reserve storage for late season instream flow that benefit aquatic life (including bull trout, westslope cutthroat trout, mountain whitefish, brown trout, brook trout, rainbow trout, and other native and nonnative species). The valves that regulate flow out of Lake Como are deteriorating and leaking at a rate of 3.3 cubic feet per second (1,400 acre-feet of water lost during the non-irrigation season). Water loss reduces the ability to impound water during the non-irrigation season and fulfill water obligations. There is also a potential for valve failure, which could result in complete loss of water delivery and problems for physical habitat and safety. This project would replace these valves and preserve the ability to control release of water for irrigation and aquatic storage. The goal is to retain benefits to irrigators, aquatic life, and recreational users.

<table>
<tr><td>REQUEST</td><td>$150,000</td><td rowspan="4">ITEMS REQUESTED BY APPLICANT</td><td rowspan="4">New gate valves and assembly</td></tr>
<tr><td>MATCH</td><td>$1,161,270</td></tr>
<tr><td>% MATCH</td><td>89%</td></tr>
<tr><td>TOTAL COST</td><td>$1,311,270</td></tr>
<tr><td colspan="4">FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend determining the level of funding during Panel discussion and prioritization.</td></tr>
<tr><td colspan="4">REVIEW PANEL RECOMMENDATION: Table the project ($0) and encourage the applicant to provide more budget information.</td></tr>
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4) **Lolo Ditch fish screen (016-2019)**. Lolo Creek (Missoula County) is the third largest drainage in the Bitterroot watershed and its upper tributaries are strongholds for bull trout and westslope cutthroat trout. Brown trout, rainbow trout, and mountain whitefish are also present. The stream is impacted by dewatering and high water temperatures in the lower reaches, and entrainment, sediment, and fish passage are issues in the higher reaches. The Lolo Ditch is the largest irrigation diversion on Lolo Creek and can divert up to 75% of flow in low flow periods. The fish that enter the ditch become entrained and cannot return to Lolo Creek. This project would install a fish screen on the Lolo Ditch and keep fish within the Lolo Creek and Clark Fork drainages. Maintenance would be the responsibility of the Clark Fork Coalition and its partners, in coordination with the water users. The goal is to improve fish populations and enhance fishing opportunities through improved survival. This application was submitted in Winter 2019 and was originally funded with $5000 in seed money but was tabled due to a lack of funding (prioritization determined final funding).

<table>
<tr><td>REQUEST</td><td>$70,000</td><td rowspan="4">ITEMS REQUESTED BY APPLICANT</td><td rowspan="4">Access walkway to screen, sluice gate, bypass, embankment and backfill, concrete, bedding, fish return, erosion control, clearing/grubbing, labor, heavy equipment</td></tr>
<tr><td>MATCH</td><td>$148,280</td></tr>
<tr><td>% MATCH</td><td>68%</td></tr>
<tr><td>TOTAL COST</td><td>$218,280</td></tr>
<tr><td colspan="4">FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend determining the level of funding during Panel discussion and prioritization.</td></tr>
<tr><td colspan="4">REVIEW PANEL RECOMMENDATION: Fully fund the project ($70,000).</td></tr>
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5) **West Fork Bitterroot Wilson Ditch fish screen (023-2019).** Wilson Ditch is located on the upper West Fork Bitterroot River (Ravalli County), which above Painted Rocks Reservoir. The West Fork Bitterroot supports populations of bull trout, westslope cutthroat trout, and brook trout. The Wilson Ditch was silted in after fires in the upper watershed, but recently water users decided to reactivate the ditch, which is located in an important area for bull trout spawning. This project would screen the Wilson Ditch, the highest diversion on the West Fork Bitterroot, and update the diversion. Once installed, the screen would contain 1.7 cfs, approximately 15% of baseflow. This project would prevent native trout entrainment in the ditch, which is top priority for bull trout conservation in the Bitterroot. The irrigator will assume primary maintenance responsibilities, but TU and the USFS will contribute. This application was not funded in Winter 2019 due to a lack of funding (prioritization determined final funding). The request was for $28,083 with a total cost of $54,788.

<table>
<tr><td>REQUEST</td><td>$30,630</td><td rowspan="2"></td><td rowspan="2">Construction oversight, materials (screen, pipe, seed,</td></tr>
<tr><td>MATCH</td><td>$31,113</td></tr>
</table>

% MATCH	50%	ITEMS REQUESTED BY APPLICANT	plants, rock), equipment and labor, mobilization
TOTAL COST	$61,743		
FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend determining the level of funding during Panel discussion and prioritization.			
REVIEW PANEL RECOMMENDATION: Fully fund the project (**$30,630**).			

6) **Miller Creek restoration & sediment reduction (017-2019).** Miller Creek (Missoula County) is a tributary to the Bitterroot River near Lolo that supports populations of westslope cutthroat trout and brook trout. It is considered a stronghold for native fish in the lower Bitterroot and several of its tributaries contain pure-strain westslope cutthroat trout. These important tributaries enter Miller Creek within a 6 mile area, and this project would address 1 of those 6 miles of stream. The project area has been degraded due to past logging and agricultural practices and is actively eroding. The floodplain has been disconnected, fine sediment has been entering the stream, habitat diversity has been reduced, and there is little riparian cover. This project would address these problems and return the project area to its natural function. In this one mile reach, the applicant proposes to designate a woody riparian vegetation expansion corridor and install bed aggradation structures (with cobble, large wood, vegetation, or beaver dam analogs), channel shaping / realignment, riparian planting, habitat structures, and floodplain wetlands. The goals are to reduce water temperatures and sediment while enhancing aquatic and terrestrial habitat, thereby increasing wild fish populations. The stream is listed for temperature and sediment impairments (Clean Water Act section 303(d) list) and property is under a conservation easement and will not be grazed. This project is considered advantageous due to its landowner support and value as a demonstration project.

REQUEST	$28,400	ITEMS REQUESTED BY APPLICANT	Grading and structures
MATCH	$113,950.10		
% MATCH	80%		
TOTAL COST	$142,350.10		
FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend determining the level of funding during Panel discussion and prioritization.			
REVIEW PANEL RECOMMENDATION: Fully fund the project (**$28,400**).			

7) **Morrell Creek decommissioning & revegetation (018-2019).** Morrell Creek (Powell County) is a tributary to the Clearwater River and supports populations of bull trout and westslope cutthroat trout. This area is considered a high priority conservation area, is critical bull trout habitat and supports both adfluvial bull trout and genetically pure westslope cutthroat trout. The project area has been impacted by 1.6 miles of road that is located within the 300 ft buffer of Morrell Creek and its floodplain. The road is

negatively impacting the stream by reducing wood recruitment and riparian cover, increasing sedimentation, and supporting the use of riprap. Sediment has been identified as a limiting factor for bull trout populations. This project would decommission 1.6 miles of road and move the road to an upland area where it would not impact the stream. The decommissioned and loosened road surface would support vegetation growth and wood recruitment as well as eliminate a significant source of sediment. The goal is to improve floodplain function, water quality, and habitat conditions for native fish in Morrell Creek.

<table>
<tr><td>REQUEST</td><td>$60,095</td><td rowspan="4">ITEMS REQUESTED BY APPLICANT</td><td rowspan="4">Oversight, clearing/grubbing, erosion/pollution control, construction materials, mobilization</td></tr>
<tr><td>MATCH</td><td>$278,734</td></tr>
<tr><td>% MATCH</td><td>82%</td></tr>
<tr><td>TOTAL COST</td><td>$338,829.50</td></tr>
<tr><td colspan="4">FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend determining the level of funding during Panel discussion and prioritization.</td></tr>
<tr><td colspan="4">REVIEW PANEL RECOMMENDATION: Fully fund the project ($60,095).</td></tr>
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8) **Nevada Creek phase 3B restoration (020-2019).** Nevada Creek (Powell County) is a tributary to the middle Blackfoot River and supports populations of westslope cutthroat trout, rainbow trout, and brown trout. The project area was historically straightened, and a non-functional riparian area caused the channel to erode and downcut. In 2010, 2017, and 2018 adjacent channel restoration projects reduced sediment, increased stream complexity, improved riparian condition, and created fish habitat that resulted in increased trout abundance. This project is considered phase 3B and would continue the restoration downstream. Approximately 4,600 feet of Nevada Creek would be tied into phase 3A and the channel would be restored to proper dimensions. Habitat would be improved by increasing overhead and in-stream cover, sediment inputs would be reduced, floodplain connectivity would be improved, vegetation growth would be encouraged, and a grazing management system would be implemented. The location is in a highly visible reach of Nevada Creek and the previous projects have had important demonstration value. Phase 3A was funded in Winter 2019 at $49,000 with a total cost of $227,235.

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<tr><td>REQUEST</td><td>$62,000</td><td rowspan="4">ITEMS REQUESTED BY APPLICANT</td><td rowspan="4">Construction materials (willow, fence, brush), equipment and labor</td></tr>
<tr><td>MATCH</td><td>$265,060</td></tr>
<tr><td>% MATCH</td><td>81%</td></tr>
<tr><td>TOTAL COST</td><td>$327,060</td></tr>
<tr><td colspan="4">FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend determining the level of funding during Panel discussion and prioritization.</td></tr>
<tr><td colspan="4">REVIEW PANEL RECOMMENDATION: Fully fund the project ($62,000).</td></tr>
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9) **Reese Creek instream flow supplement (021-2019).** Reese Creek (Park County) is a tributary to the Yellowstone River near the northern boundary of Yellowstone National Park that supports both a resident population of Yellowstone cutthroat trout at its headwaters and a migratory spawning population that originates in the mainstem Yellowstone River. This project intends to install a pipeline between the existing diversion and intake pond, which would decrease the necessary diverted flow volume and salvage seepage losses, providing additional instream flow to Reese Creek. Between 1.3 and 3.84 cfs would be saved from seepage, for 4.3 cfs (spawning) or 1.6 cfs (remainder of the year) of flow. The goal of this project is to ensure minimum instream flows are available in Reese Creek year-round, which should increase survival of Yellowstone cutthroat trout fry and increase recruitment to the Yellowstone River. In 2015, this project received $55,000 in funding and the total project cost was $126,000. When the project went to bid in 2018, the applicant discovered they were approximately $123,000 short of funding. This is a supplemental request, which would bring the Future Fisheries investment up to $145,000 for a 30 year lease.

<table>
<tr><td>REQUEST</td><td>$90,000</td><td rowspan="4">ITEMS REQUESTED BY APPLICANT</td><td rowspan="4">Diversion, pipeline</td></tr>
<tr><td>MATCH</td><td>$216,733</td></tr>
<tr><td>% MATCH</td><td>60%</td></tr>
<tr><td>TOTAL COST</td><td>$361,733</td></tr>
<tr><td colspan="4">FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend funding 50% of the shortfall, with determination of the specific level of funding during Panel discussion and prioritization.</td></tr>
<tr><td colspan="4">REVIEW PANEL RECOMMENDATION: Partially fund the project at $20,000.</td></tr>
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10) **Sevenmile Creek restoration phase 2 (022-2019).** Sevenmile Creek (Lewis & Clark County) is a tributary to Tenmile Creek that supports populations of brown trout and brook trout. In 2017, the Prickly Pear Land Trust (PPLT) acquired a 350-acre parcel of land in the Helena Valley that included approximately 2.2 miles of Sevenmile Creek. The stream has been heavily impacted by riparian clearing, intensive grazing, flow, diversion, and channelization. An initial phase was completed in 2018 that improved fish passage and removed a diversion. This project would address the final 0.6 miles of restoration to complete 2.2 miles of restoration in Sevenmile Creek by constructing a permanent fish passage structure, reconstruct 2,800 feet of channel to its historical elevation, and construct an inset floodplain along the lower 200 feet of incised channel. The goal is to enhance wild fish habitat by reducing fine sediment inputs, improving habitat complexity, and improve function of the riparian corridor and floodplain. In 2017, Future Fisheries contributed $21,363 to the fish passage project.

REQUEST	$69,000	ITEMS REQUESTED BY APPLICANT	Equipment and labor (excavate, stockpile, grade riffles, construct plugs, pool bank treatments, etc.) in new channel.
MATCH	$274,431		
% MATCH	80%		
TOTAL COST	$343,431		

FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend determining the level of funding during Panel discussion and prioritization.
REVIEW PANEL RECOMMENDATION: Partially fund the project at **$50,000**.

11) **Haughian Bass Reservoir spillway repair (015-2019).** Haughian Bass Reservoir (Custer County) is a 45 acre impoundment on private property in northern Custer County in the Cheery Creek drainage. It has been managed within the Region 7 Pond Fishing Program, open to public access through landowner permission since 1975. This reservoir is larger than most ponds in the area and supports an above average quality fishery with largemouth bass, smallmouth bass, yellow perch, and northern pike. There has been some stocking to the reservoir, but natural reproduction occurs as well. The existing spillway and concrete foundation were damaged due to shifting ice. The landowner and FWP have placed sandbags around the damaged pipe to reduce water loss and minimize additional damage, but a permanent fix is needed. Failure to repair the pipe could compromise the spillway and reduce water depth by 3-4 feet, putting the reservoir in risk of killing the fish population over the winter. A head cut is also concerning to the integrity of the dam. The project applicant intends to excavate and repair the spillway pipe and fill existing headcut. The goal is to retain the high quality fishery and reduce the risk of a winter kill.

REQUEST	$4,100	ITEMS REQUESTED BY APPLICANT	Construction materials (culvert, pipe, sackcrete), excavator
MATCH	$483.20		
% MATCH	11%		
TOTAL COST	$4,583.20		
FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend determining the level of funding during Panel discussion and prioritization.			
REVIEW PANEL RECOMMENDATION: Fully fund the project (**$4,100**).			

12) **Musselshell River McCleary channel restoration (019-2019).** The Musselshell River (Musselshell County) is a tributary to the Missouri River. The Musselshell has experienced extensive flooding and channel adjustments in recent years. In the project area, the channel experienced an avulsion in 2018, resulting in a limited ability to access water for irrigation and domestic use. The applicant and landowner would like to restore full connectivity and increase habitat for fish while maintaining a pump site and point of withdrawal for water use. The goal is to improve ecological function and stream health rather than just return irrigation access. The project area supports a variety of native fish including sauger, catfish, sucker, emerald shiner, burbot, and western silvery minnow. Non-native gamefish are also present, as well as turtle and native mussels.

REQUEST	$80,000		

MATCH	$119,827	ITEMS REQUESTED BY APPLICANT	Construction materials (plugs, bank rock)
% MATCH	61%		
TOTAL COST	$207,755		
FWP STAFF RECOMMENDATION: Due to the high number of requests, we support the project but recommend determining the level of funding during Panel discussion and prioritization.			
REVIEW PANEL RECOMMENDATION: Partially fund the project at **$70,000**.			